

# **Washington Transportation Plan**

## **Freight Systems**

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# The Washington Transportation Plan (WTP)

A ten-year blueprint for transportation programs and facilities

Covers the full transportation system: city, county and state

Creates program direction and investment priorities

Organized in nine themes:

- System Preservation
- Safety
- System Efficiencies
- Transportation Access
- Bottlenecks and Chokepoints
- **Moving Freight**
- Health and the Environment
- Contributing to Strong Economy and Good Jobs
- Building Future Visions

# Purpose of the WTP Freight Report

To provide decision makers with a data-based rationale for strategic investment in Washington State's freight system.

The report's analysis explains:

- Who are the customers of the state's freight system
- Why freight customers matter in terms of jobs and contribution to Gross State Revenues
- What performance the customers expect from the freight system
- Where key performance gaps are located
- How to make the most productive, strategic investments in Washington State's freight system

# **Moving Freight**

## **I. Global Gateways**

International and National Trade Flows Through Washington

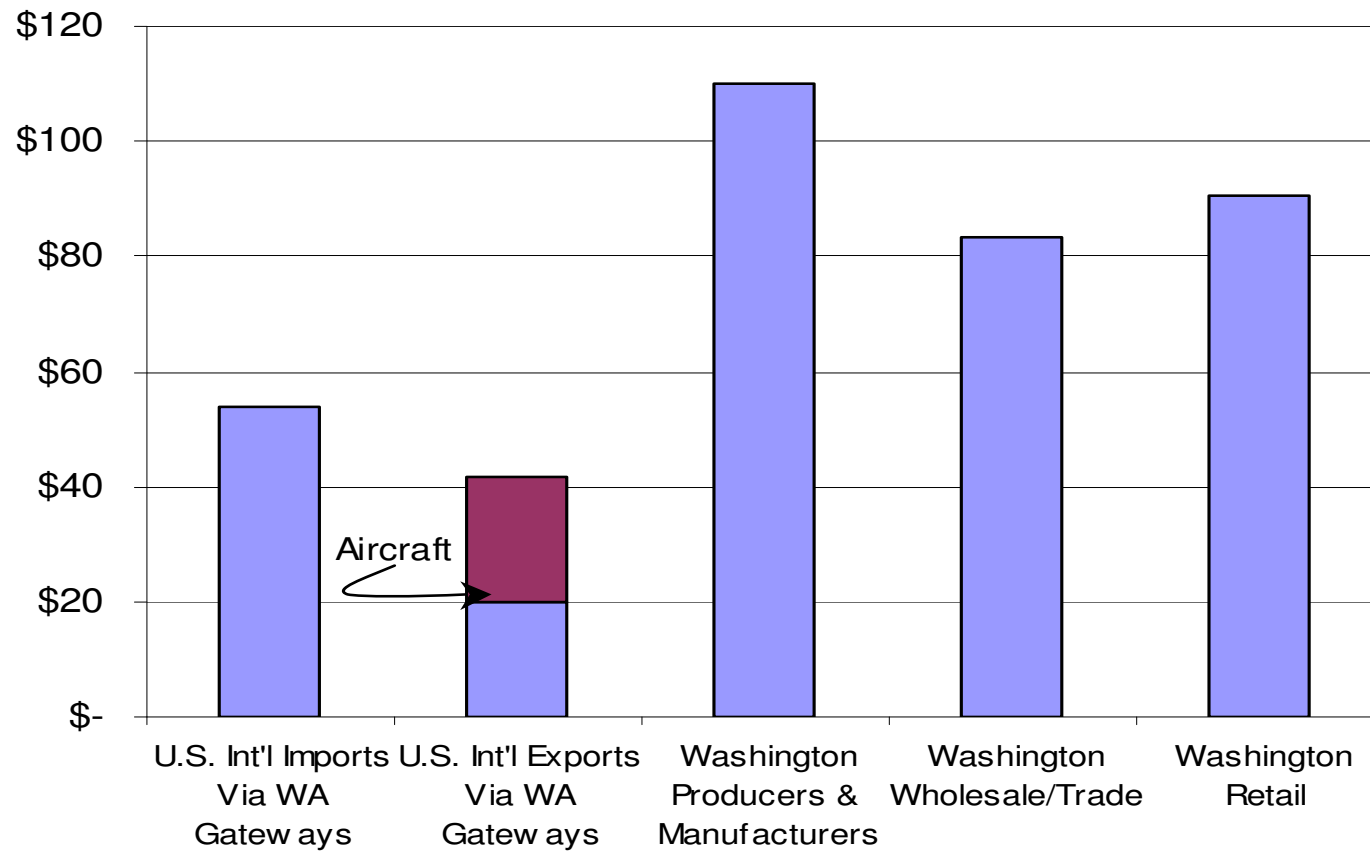
## **II. Made in Washington**

Regional Economies Rely on the Freight System

## **III. Delivering Goods To You**

Washington's Retail and Wholesale Distribution System

# Washington State Value of Freight Shipments (2003: Billions of Dollars)

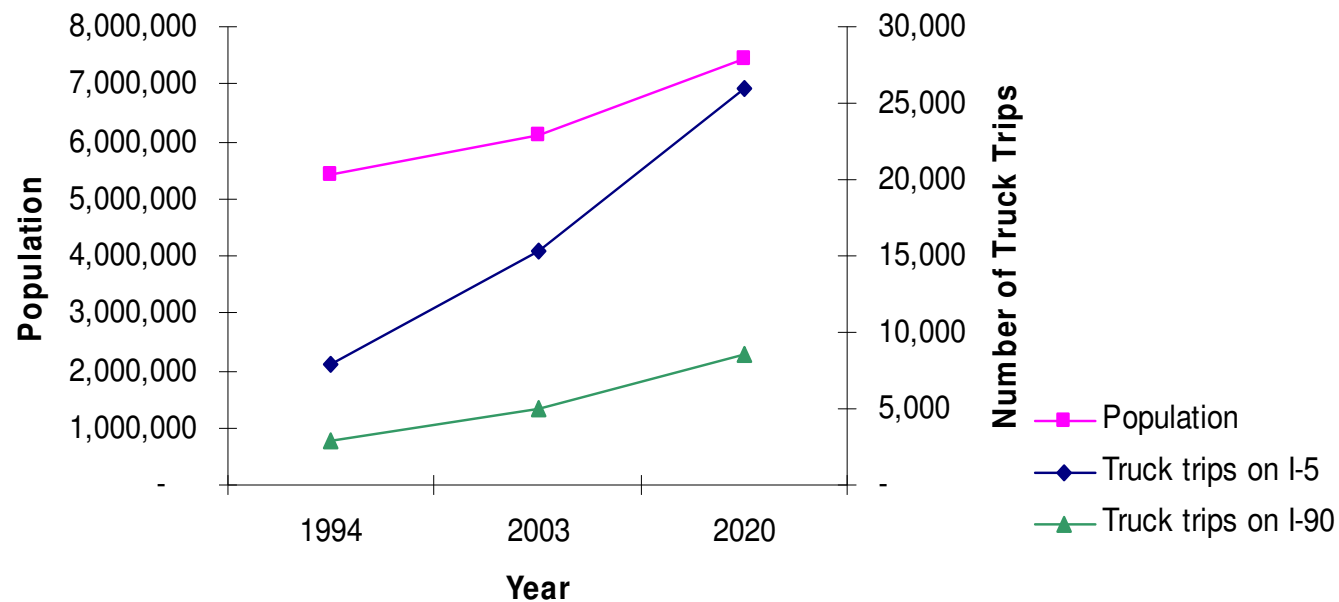


Source: U.S. Customs Bureau; WA State Dept. of Revenue.

# Freight Volumes in Washington are Growing Twice as Fast as the State's Population

Freight growth in Washington is fueled by globalization, new competitive industry trends and technologies.

**Washington State's Population Growth and Growth of Truck Trips on I-5 and I-90**



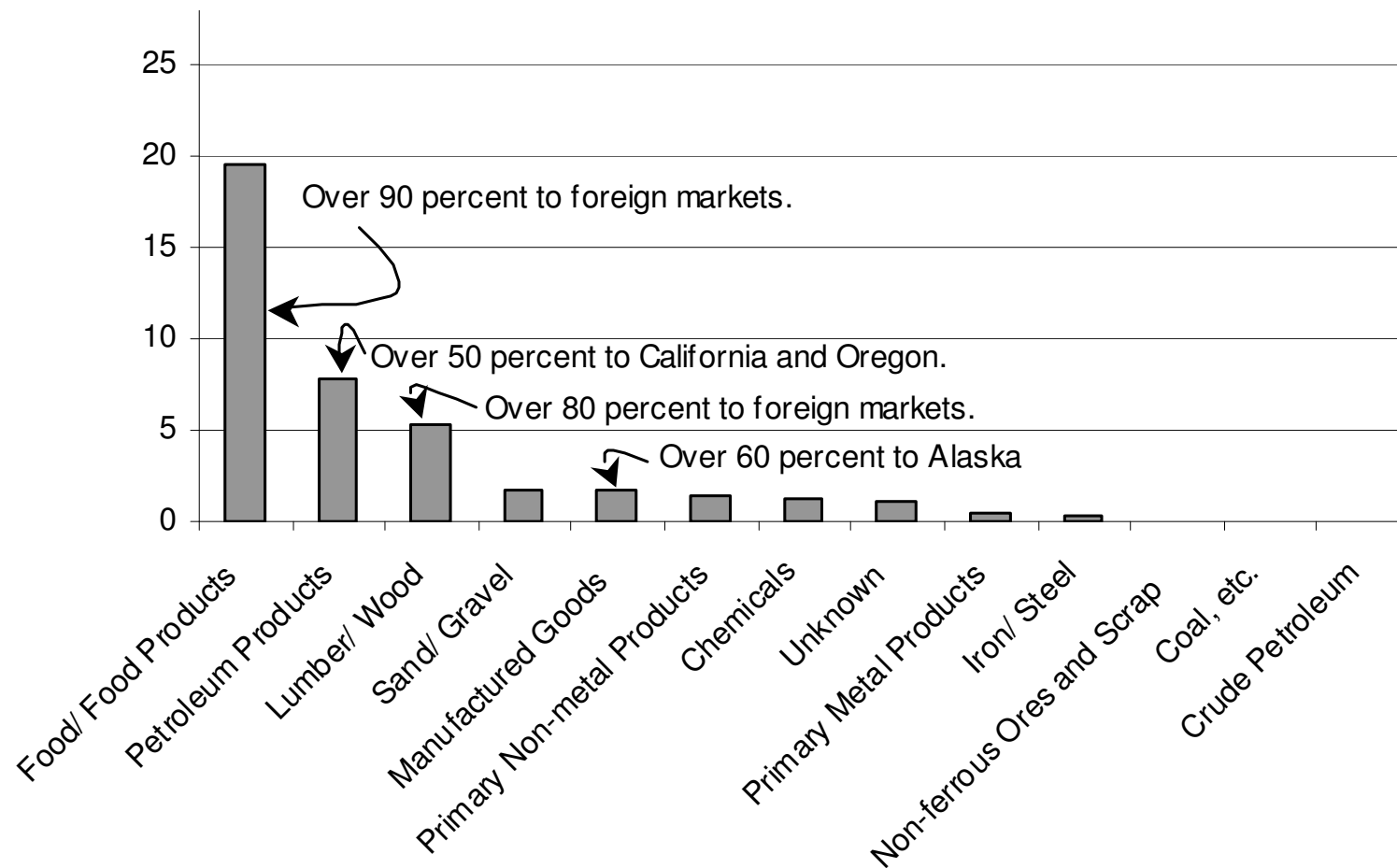
# I. Global Gateways

International and national trade flows through Washington



# By Tonnage, Food/ Food Products Outweigh Other Waterborne Outbound Commodities

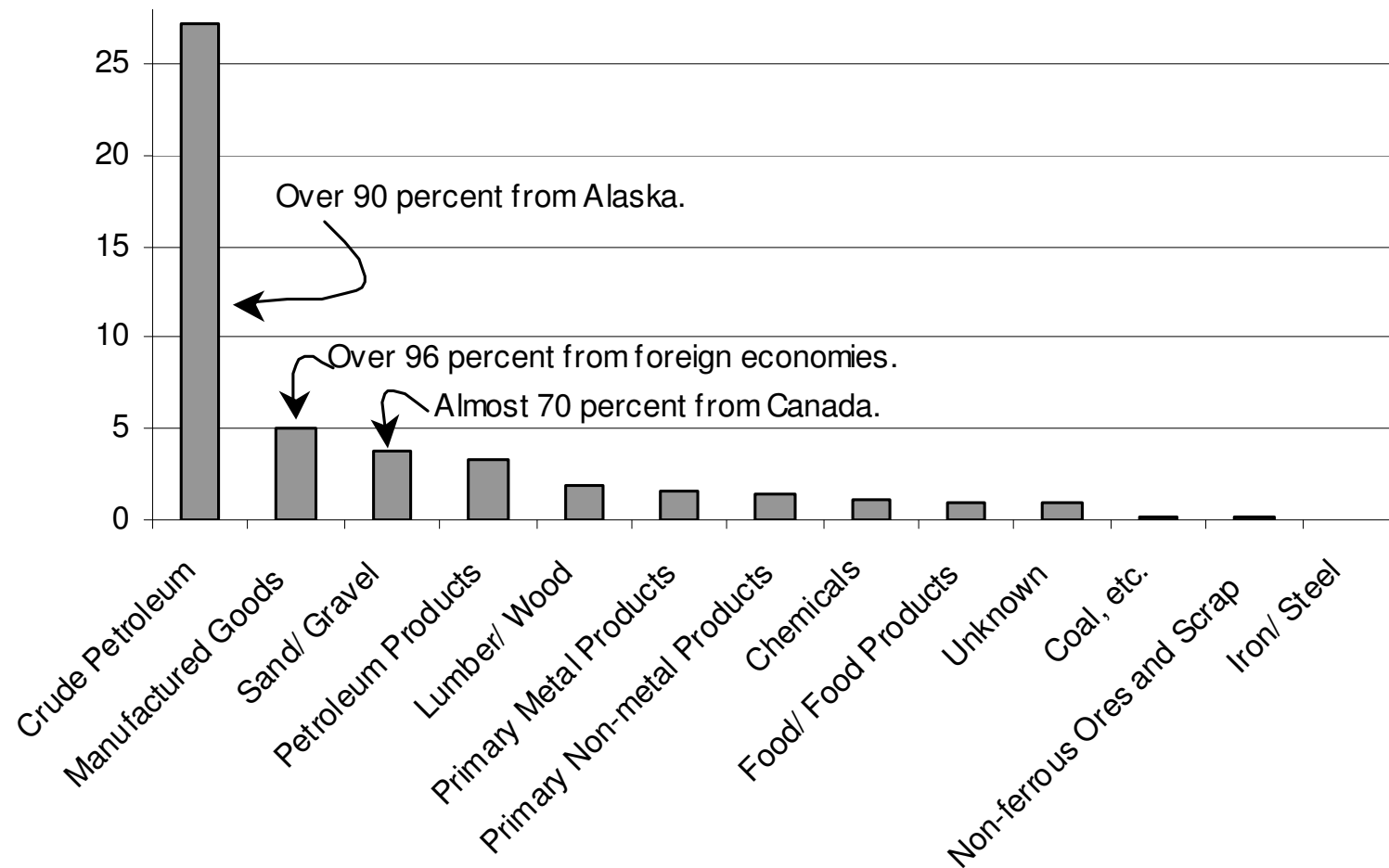
Goods Leaving Washington State by Water  
2002, Million Tons





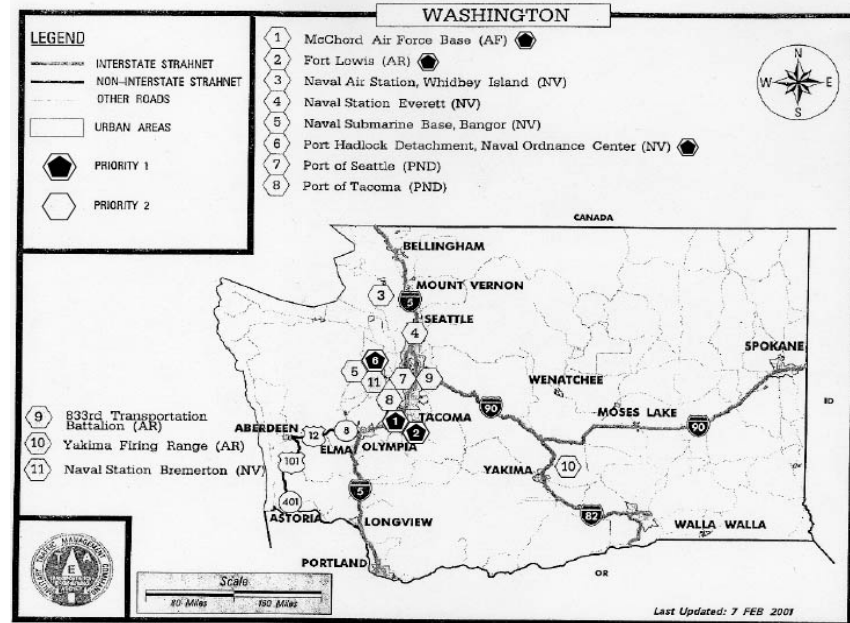
# By Tonnage, Crude Petroleum Dwarfs All Other Waterborne Inbound Commodities

Goods Entering Washington State by Water  
2002, Million Tons



# Washington Gateways Play an Essential Role in Supporting National Security

- Fort Lewis is a key U.S. location for gathering, staging and mobilizing forces and material.
- During a major regional conflict, cargo from all over the United States will rush by road and rail to Fort Lewis.

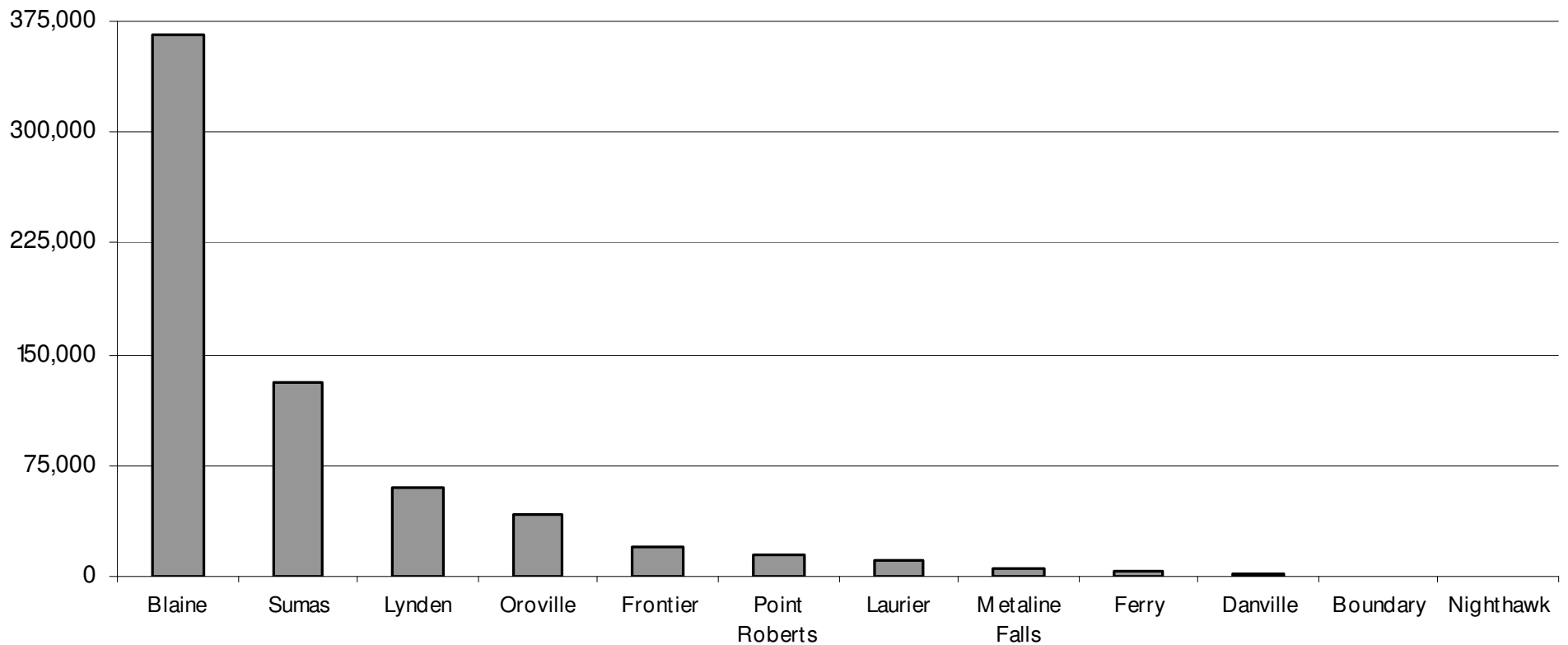


## Washington is also the Gateway to Alaska

- By value and volume – 24.62 million tons – the most significant commodity shipped to Washington from Alaska, using the inland waterway and landing at refineries, is crude petroleum.
- Washington State ships manufactured goods, food and food products, north to Alaska.

# Canadian Trade is Linked to the U.S. Economy By Washington's Border Crossings

**Trucks Entering Washington State From Canada in 2003**  
Number of Trucks



U.S. Department of Transportation, Bureau of Transportation Statistics (BTS). *Border Crossing Data U.S.-Canada.*

## II. Made in Washington

### Regional Economies Rely on the Freight System

**Agriculture: \$5.6 billion** in food and agricultural products in 2002.

Freight transportation is especially important for Washington agriculture as the state produces up to twenty times as much food as it consumes, and is far from most of the nation's consumers.

**Manufacturing: \$88.3 billion** in Gross Business Revenues in 2003, 21.3 percent of the total State Gross Business Income.

**Construction: Gross Business Revenues topped \$27 billion** in 2003.

**Forestry: Value-added wood and paper products produced \$12.7 billion** of Washington's Gross Business Revenues in 2003.

# Regional Economies Rely on Freight System



# Columbia Basin and North Central Washington: Growing and Processing Center

Washington ranks first in U.S.  
apple production: \$1.02 billion sales;  
31% exported to international markets.

Washington ranked second in U.S.  
potato production: \$3 billion annual sales  
of potatoes/products; 90% consumed in  
U.S.

Washington is the second largest  
premium wine producer in the United  
States.

Much of Washington's onion and hay  
crops are produced and processed in the  
Columbia Basin, with statewide values of  
\$141 million and \$381 million in 2003,  
respectively.

Timber sales are important to tribal lands  
and the Northeast Washington counties,  
as are natural resource based industries.



## 87,500 Jobs Rely on Freight

	Jobs	Average Wage
Agriculture	42,013	\$16,665
Manufacturing	22,993	\$33,779
Wholesale/Trade	8,467	\$31,051
Transportation/Utilities	13,984	\$38,469

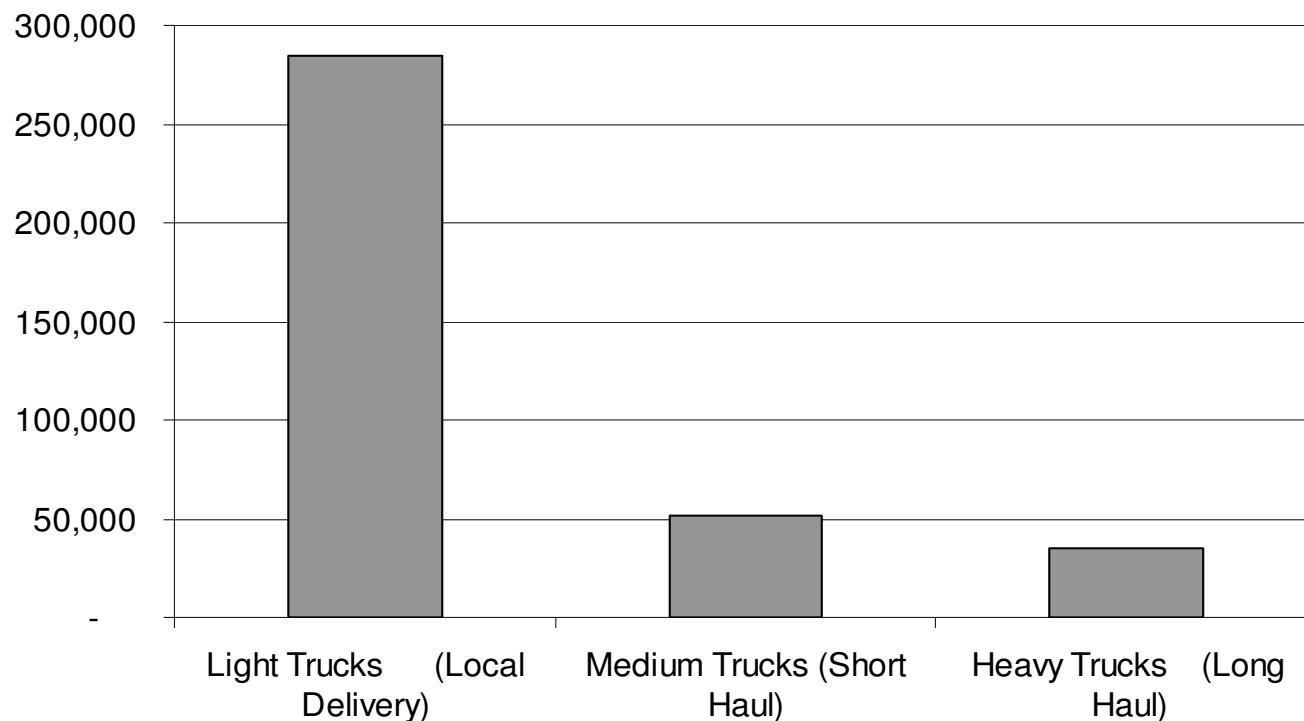
## Big Transportation Issues:

- All weather local roads
- Solution to reposition refrigerated equipment
- I-90 Snoqualmie Pass improvements to avoid severe weather closures

# III. Delivering Goods To You

## Washington's retail and wholesale distribution system

- Up to 80% of truck trips operate in the local distribution system
- In 2004, almost ten times more light and medium trucks than heavy trucks were licensed in Washington State.



# **Freight Distribution System Serves Retail, Wholesale, and Business Services Sectors**

1.7 million jobs and \$240.3 billion in gross business revenues in Washington's retail, wholesale, and business services sectors in 2003.

Distribution companies must provide fast and ubiquitous service that is reliable under all conditions to support the service sectors.

- FedEx and UPS drivers don't go home until every package is delivered.
- Hospital patients can't wait for drug deliveries.

## **Food and Grocery Delivery Supports Every Citizen, Everyday**

Big Volume of Truck Trips Serve Groceries and Restaurants

A typical large grocery store

- Receives two large semi-tractor trailer deliveries per day, and
- Ten to 20 other specialized deliveries per day



# Fuel Distribution System

- Washington has five refineries; four of them linked by Olympic Pipe Line. Yellowstone and Chevron pipelines serve Eastern Washington from out-of-state refineries.
- Almost all deliveries to market are made by truck to distribution centers located at:
  - Harbor Island    Tacoma    Moses Lake
  - Renton    Anacortes    Pasco
  - Tukwila    Ferndale    Spokane
- Washington has 2,800 gas stations, up 43% from 1996. One to fifteen tanker deliveries per week go to each gas station.
- Marine fueling: average fishing boat takes four tanker trucks (30,000 gallons)
- Agriculture and industry
- Home heating oil



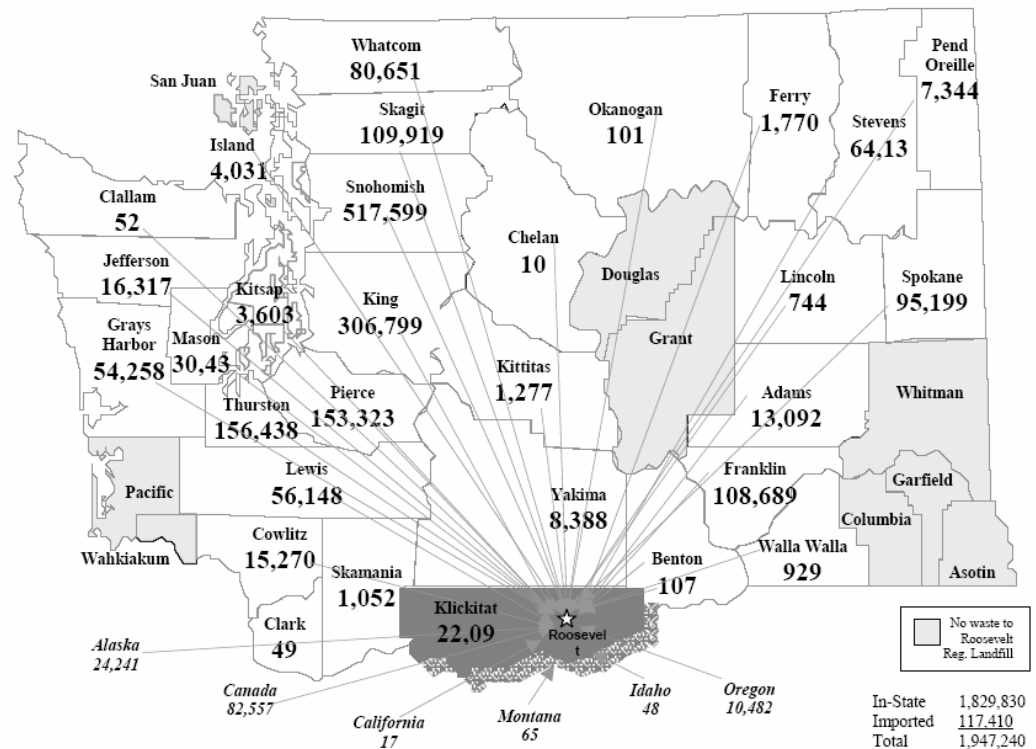
# The Garbage and Refuse System

Over 4.5 million tons of garbage moved by truck and truck/rail to landfills in Washington State in 2001.

This waste was trucked to transfer stations, consolidated, loaded into larger trucks, and moved to nearby landfills via truck or transferred to rail cars destined for Roosevelt landfill in Eastern Washington.

In 2002, 1.4 million tons of Washington's solid waste was exported to Oregon by rail.

**Municipal Waste to Roosevelt Regional Landfill in 2002**



# **What are the Emerging Washington Transportation Plan Freight Recommendations?**

The WTP Freight Report identifies policy and strategy directions and highly productive investments Washington State can make to generate economic prosperity and wealth for citizens of the state.

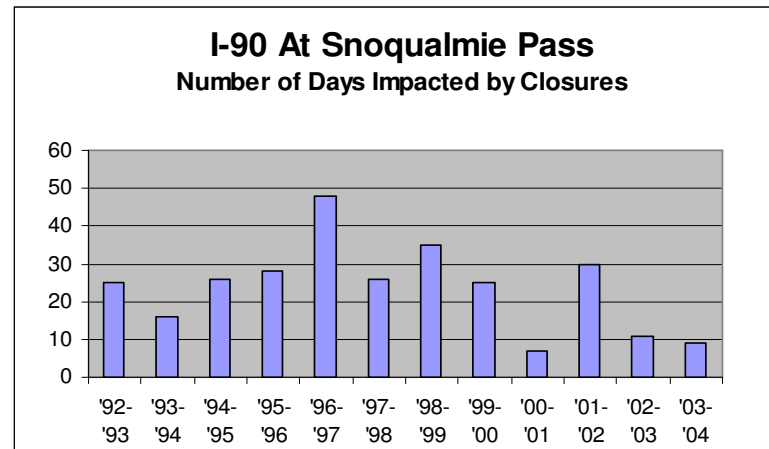
These improvements are necessary to support Washington's role as a global gateway, our own state's manufacturers and agricultural growers, and the state's retail and wholesale distribution systems.

# Reduce Severe Weather Closure on Major East/ West Freight Corridors

## Improve I-90 at Snoqualmie Pass

### What is the Problem?

Snoqualmie Pass on I-90 is subject to unpredictable and lengthy closures. Avalanches caused 67 to 76 percent of all closures in the decade's last three severe weather years: 1996, 1998, 2001.



Eastern Washington manufacturers, agricultural growers and processors, and distributors use I-90 as the primary east-west freight route, and cite severe winter weather closures on I-90 at Snoqualmie Pass as their top freight issue.

The unreliability of this freight route has significant negative impacts on Washington's economy.

Substandard highway curves and poor sight distance contribute to a higher incident of truck accidents than other segments of I-90.

Super-load closures occur about 25 times per year. To match permitted oversize moves, trucks are delayed up to 17 hours M-TH and up to 44 hours on weekends.

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# Moving Freight

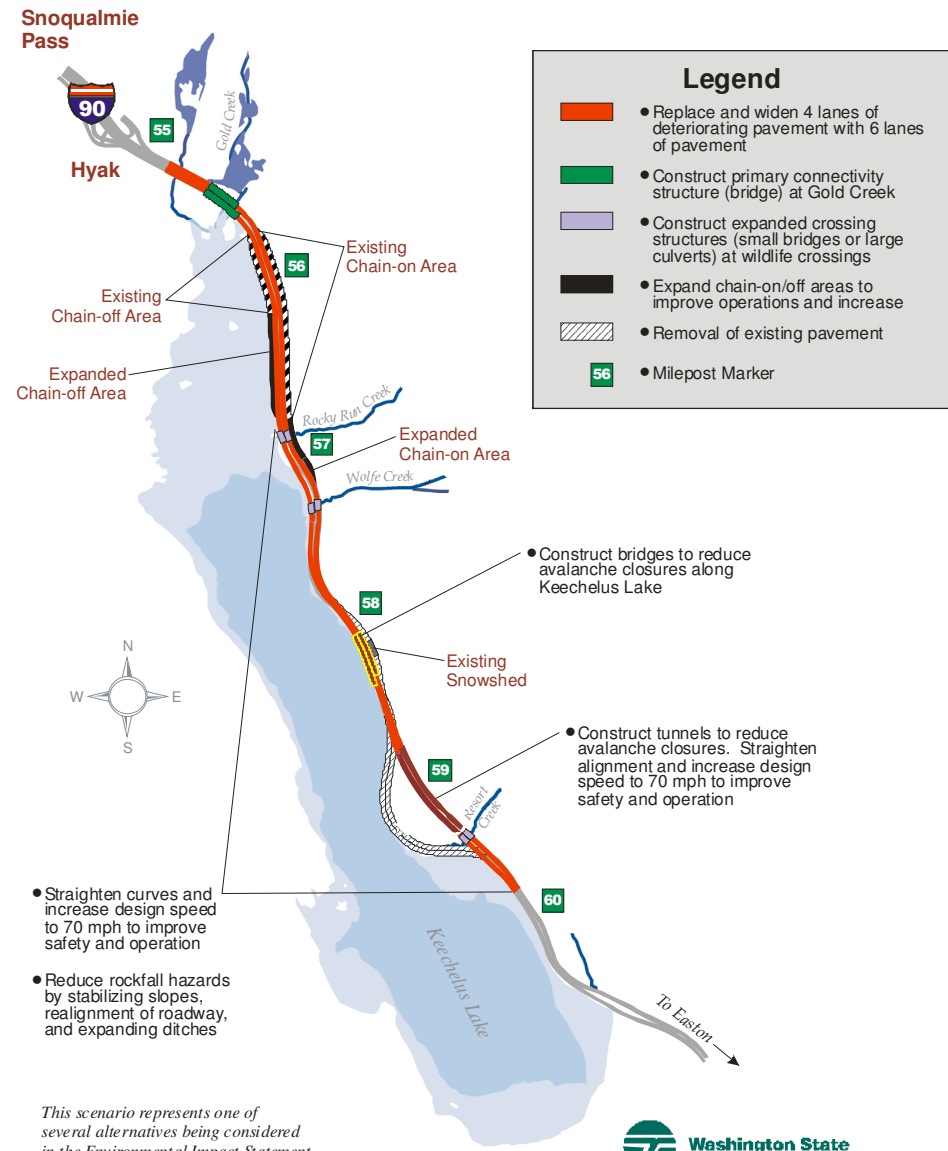
## Description of Proposal

Improve Interstate 90, east of and over Snoqualmie Pass, to prevent severe weather closures.



3/3/2006

## I-90 Snoqualmie Pass East Hyak to Keechelus Dam



# Develop a Statewide Core All-Weather County Road System

## What is the Problem?

Up to two months per year, Washington State agricultural growers and processors, manufacturers and timber/lumber businesses can't ship their products to market due to weight restrictions on county roads.

In a global marketplace, Washington producers inability to meet buyers' requirements causes loss of customers, and ultimately, loss of the state's competitive advantage.

## Description of Proposal

Identify, establish and fund a statewide core all-weather county road system to minimize the economic impacts of freeze and thaw-related road closures.

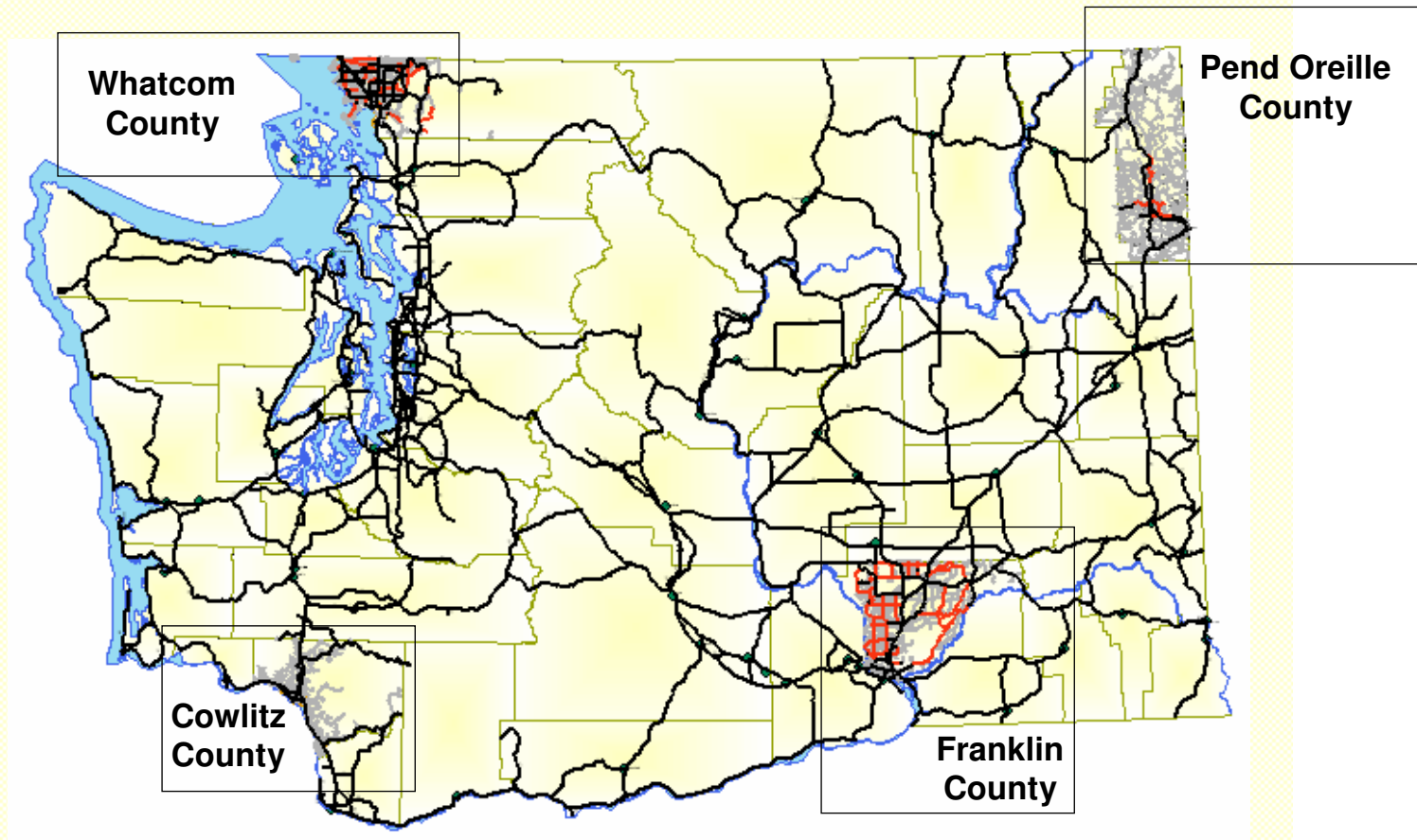
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# Develop a Statewide Core All-Weather County Road System

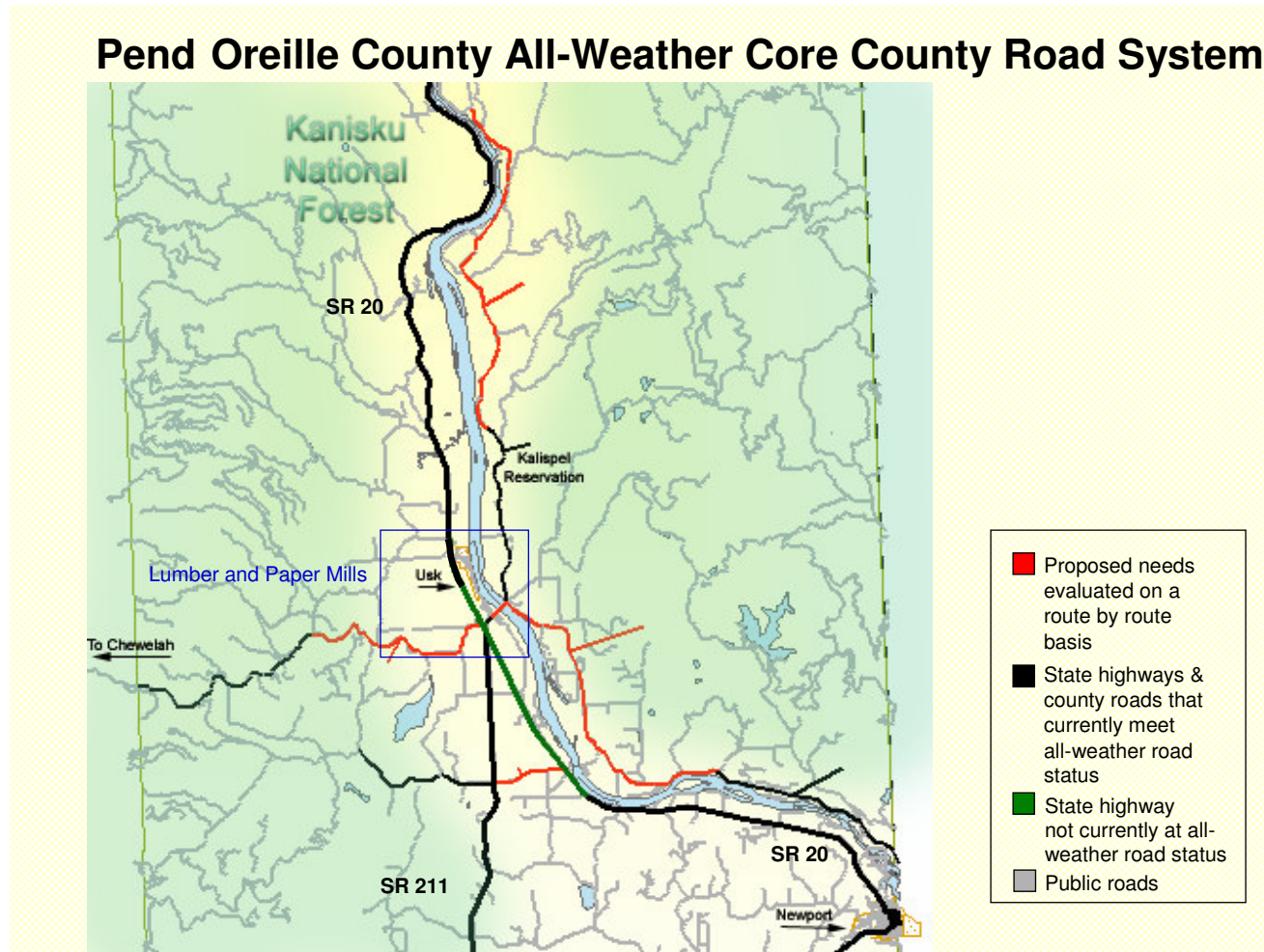
## Four-County Pilot Information Project





# Develop a Statewide Core All-Weather County Road System

## Description of Benefits/Impacts of Implementing the Proposal





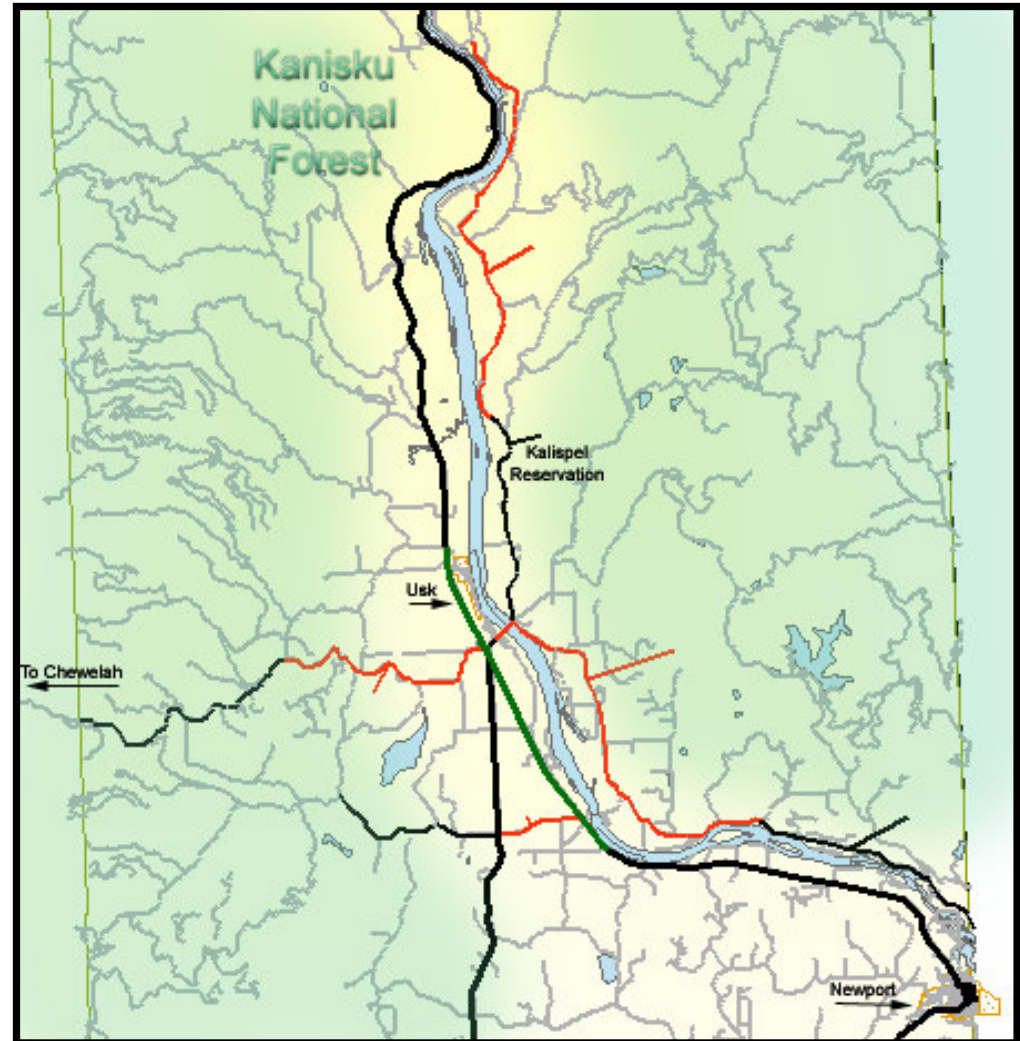
# Develop a Statewide Core All-Weather County Road System

## Description of Benefits/Impacts of Implementing the Proposal

### Northeastern Washington Example: Chewelah to Usk Route on Flowery Trail

Completing this core all-weather route will connect a paper mill, a log mill, and regional agri-businesses to the state highway system.

Much of this route has been built to year-round road standards, but the 6.3-mile segment from Danforth Rd to Hwy 20 at Kings Lake Rd is weight-restricted.



# Complete the Statewide CVISN/ Weigh-in-Motion System

## What is the Problem? Eight CVISN Sites Deployed, Seven More Planned

Truck scales are used to protect state highways from overweight vehicles, and provide safety inspections and freight data, while minimizing delay to trucks.

In Washington, trucks without transponders spend an average of 6.13 minutes at scales for weight verification (inspections can take much longer).



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## Description of Proposal

Complete the statewide Commercial Vehicle Information Systems and Networks (CVISN) and Weigh-in-Motion (WIM) system.

# Address Freight Constraints on Mainline Rail

## What is the Problem?

Container freight entering the Ports of Seattle and Tacoma will triple by 2025. Most of these goods are shipped to the Midwest via rail, but there isn't enough east-west rail capacity to handle a tripling of current volume.

Eighty- five percent of Eastern Washington wheat is shipped to Asia via Columbia River ports, but farmers struggle to get product through the state's freight system.

**Comparison of Mainline Rail Capacity With Current and Projected Operations (Trains per Day)**

Mainline Segment	Current Operations			Projected 2025 Operations		
	Estimated Sustainable Cap.	Ave. Trains/Day	Peak Trains/Day	Estimated Sustainable Cap.	Ave. Trains/Day	Peak Trains/Day
Stevens Pass	28	23	25	28	46	51
Stampede Pass	20	6	7	20	16	18
Blaine to Everett	18	14	15	30	21	23
Everett to Seattle	50	45	50	100	84	92
Seattle to Tacoma	100	85	94	200	189	208
Tacoma to Kalama	60	45	50	120	80	88
Kalama to Longview	80	52	57	160	94	103

BST Associates. 2004 Marine Cargo Forecast: Original source: MainLine Management and HDR, Inc. (Page 115). Includes passenger trains.

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# Address Freight Constraints on Mainline Rail

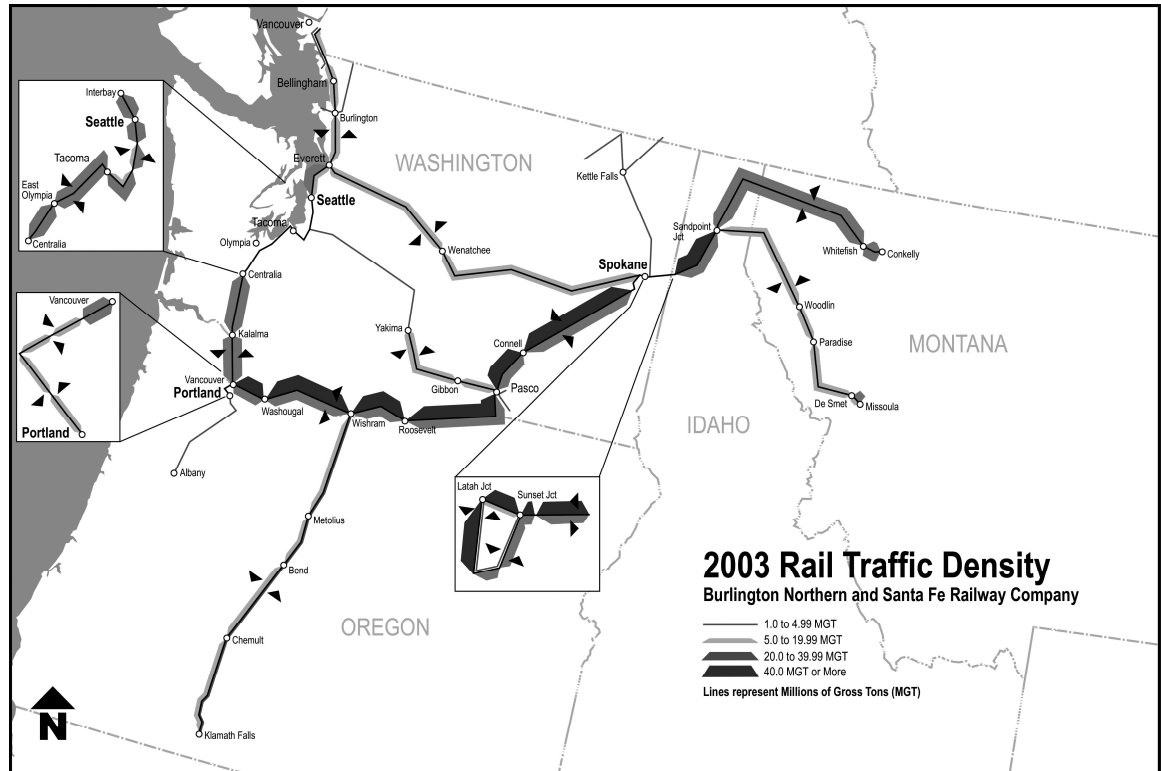
## Description of Proposals

### Policy

Support growth in east-west mainline rail capacity and port-rail connections, and preserve rail yards in metro areas.

### Policy

Review the relationship between freight and passenger rail service on the Interstate 5 rail corridor, and ensure that growth of passenger rail does not encumber freight service.



# Create Fuel Pipeline Capacity and Distribution Alternatives

## What's the Problem?

Washington's citizens and industries consume 17.6 million gallons of petroleum per day and consumption is growing.

## Description of Proposal

**Policy:** Create fuel pipeline capacity and distribution alternatives to meet Washington's long-term demand.

**Strategy:** Analyze constraints and remove obstructions so that the market may respond to increasing demand.

## Description of Benefits/Impacts of Implementing the Proposal

Efficiently supplying fuel to Washington citizens and businesses supports the economic vitality of our state.

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# Maintain the Columbia- Snake River Trade Corridor

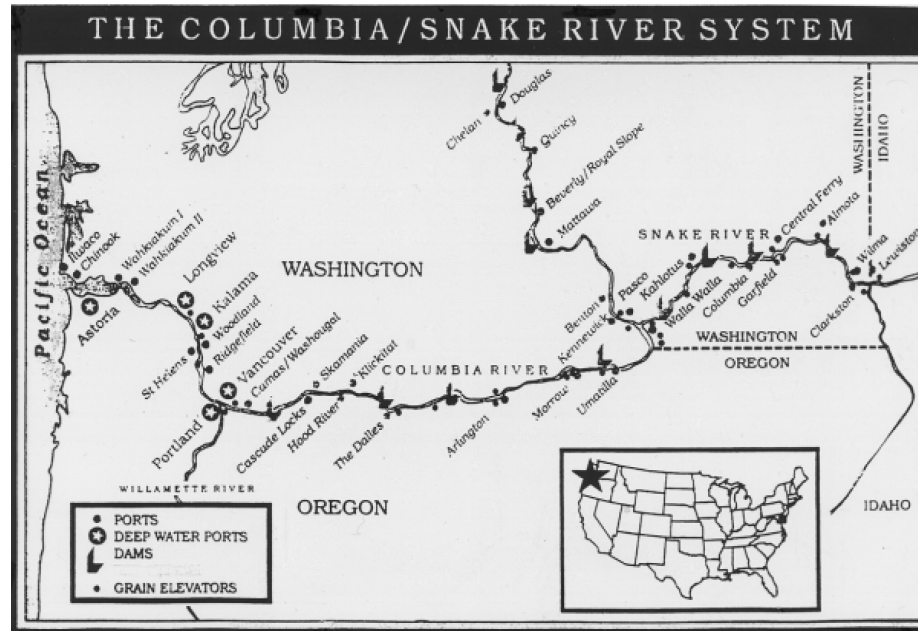
## Description of Proposal

**Implement a 20-year Dredge Management Plan** to stabilize the Columbia-Snake River barge system.

**Columbia River Channel deepening** so downriver ports can handle larger ship sizes and maintain existing trade.

**Mid-Columbia & Snake River Lock Repair & Retrofit:** eight dams in need of near-term repair.

**Columbia River Jetty Repair** to keep sand from being deposited directly into the navigation channel during storms.



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# Ongoing Funding for Regional Economic Development & Freight System Mitigation

## Description of Proposal

Create an ongoing, appropriate level of funding for regional economic development freight projects, port and intermodal access improvements, grade separations, shortline rail improvements, and truck route program to optimize truck movements in metro areas.

## Description of Benefits/Impacts of Implementing the Proposal

Benefits of investing in regional economic development include increased:

- Contribution to local and state tax base
- Contribution to Gross State Product
- Growth of jobs
- Economic growth distributed throughout the state

Statewide truck route program to provide incentives for congested urban areas to optimize truck movements. Eighty percent of all freight moves on the local system.

Benefits from investing in the growth in Washington's Global Gateways freight system include:

- Economic impact of jobs created by seaport, rail and warehouse district activities.
- Reduced cost of international transport for Washington State goods.
- Advantage from the region's soft trade infrastructure: human capital that facilitates financial, legal, and other international business issues.

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# Address Freight Constraints in the I-5 Corridor

## What is the Problem? Growth in the I-5 Corridor

Manufacturers, agricultural growers and processors, construction firms, and distributors have no practical alternative to Washington's most heavily used north-south freight routes: I-5, I-405 and Highway 167.

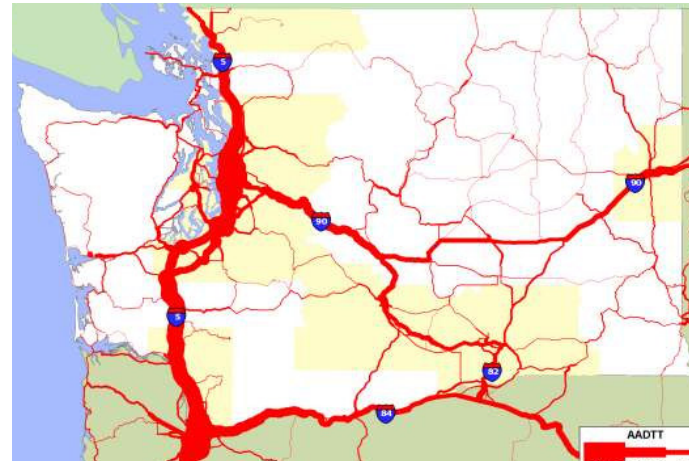
Up to 22,000 trucks drive the I-5 corridor between Central Puget Sound and Oregon, daily. Truck trips increased by 94 percent on the I-5 corridor between 1993 and 2003. Freight volumes are expected to increase another 80 percent - to 35,000 trucks per day - by 2020.

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Estimated Average Annual Daily Truck Traffic 1998



Estimated Average Annual Daily Truck Traffic 2020





# Address Freight Constraints in the I-5 Corridor For Statewide Market Access

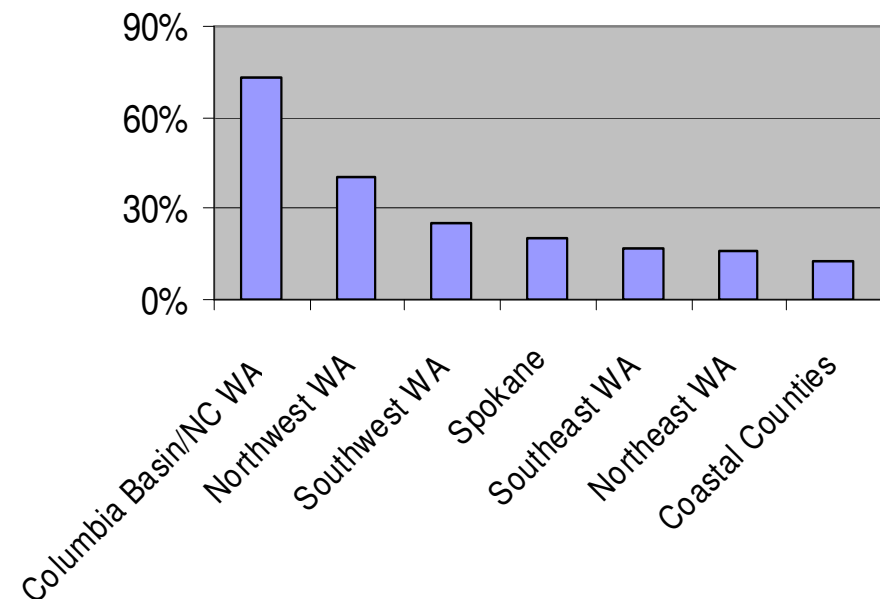
Every region in the state ships goods on the I-5 Corridor to the major markets in Central Puget Sound. Businesses also ship products to the world through Central Puget Sound ports.

## Regional Truck Trips to Central Puget Sound\*

Origin By Region	Daily Truck Trips
Northwest Washington	1,500
Columbia Basin/ North Central Washington	1,400
Coastal Counties	750
Southwest Washington	730
Northeast Washington	415
Spokane	390
Southeast Washington	260

\*Strategic Freight Transportation Analysis, Washington State University; 2003.

## Percentage of 2003 Regional Truck Trips Destined for Central Puget Sound



# Address Freight Constraints in the I-5 Corridor

## Description of Proposals

### Projects

Analyze the benefits of a public-private truck-toll highway from Central Puget Sound to the Oregon border.

Corridor completion of the major north-south freight corridor system:

- Highway 167 to I-5
- Highway 167 and Highway 18
- Highway 509 to I-5
- Complete Highway 18 to I-90
- Add a third eastbound lane on Highway 518 from Sea-Tac International Airport to I-5

Failing structures:

- Replace the Alaskan Way Viaduct
- Replace the I-5 Columbia River Bridge

### Policy

Recognize the South Puget Sound warehouse district as a component of the state's Global Gateway system along with rail and port facilities, and preserve the warehouse district's proximity to the Ports of Seattle and Tacoma.

### Operations

Continuously Improve Traffic Management System & Incident Response Program

# Air Cargo System Statewide Study

## What is the Problem?

Air transportation plays a significant role in the movement of international and domestic air cargo, but there isn't enough information on the origins and destinations of air cargo, value, and commodities shipped. There is also a need to understand air cargo constraints in the market place in order to identify strategies to move cargo more efficiently and effectively across state, international, and jurisdictional boundaries.



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## Description of Proposal

A statewide air cargo study is needed to identify air cargo trends, origin and destination of cargo, and strategies to facilitate efficient movement of air cargo. Ongoing regional planning efforts may help guide the development of a statewide air cargo study, such as information from the upcoming Puget Sound Regional Council air cargo freight access study.

## Description of Benefits/Impacts of Implementing the Proposal

Identification of strategies and performance measures to increase the overall effectiveness of air cargo and movement of freight in Washington State.

## Ideas for Additional Study?

Freight related issues such as security, safety and the environment are being considered in other parts of the update of the Washington Transportation Plan.

What did we miss?

We want the conversation about freight strategy to involve all the players

For a full copy of the freight report please go to:  
*[http://www.wsdot.wa.gov/freight/images/WTP\\_FreightUpdate.pdf](http://www.wsdot.wa.gov/freight/images/WTP_FreightUpdate.pdf)*